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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,464	03/28/2001	Martin Friede	B45070-1 US1	1150
23347 7590 03/09/2007 GLAXOSMITHKLINE CORPORATE INTELLECTUAL PROPERTY, MAI B475 FIVE MOORE DR., PO BOX 13398 RESEARCH TRIANGLE PARK, NC 27709-3398			EXAMINER LUCAS, ZACHARIAH	
			ART UNIT 1648	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			03/09/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/819,464	FRIEDE ET AL.	
	Examiner	Art Unit	
	Zachariah Lucas	1648	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 January 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 74-84 and 94-96 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 74-84 and 94-96 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. Claims 74-84 and 94-96 are currently pending in the application.
2. In the prior action, the mailed on July 17, 2006, claims 74-94 were pending; with claims 74-84 and 94 rejected, and claims 85-93 withdrawn as to non-elected inventions.

In the Response of January 17, 2007, claims 85-93 were cancelled, and new claims 95 and 96 were added.

3. Claims 74-84, and 94-96 are under consideration.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **(Prior Rejection- Maintained)** Claims 74-76, 78, 80, and 82-84 were rejected under 35 U.S.C. 103(a) as being unpatentable over Lipford (Vaccine 12: 72-80) in view of the teachings of Kensil (U.S. 5,583,112). The rejection is maintained, and extended to new claims 95 and 96.

Applicant traverses the rejection on the basis that those of ordinary skill in the art would not combine the teachings of Lipford with those of Kensil, and would therefore find no motivation for the substitution of QS-21 for the Quil A of Lipford. The Applicant bases this assertion on the fact that Kensil teaches a number of purified saponins, and that the saponin QS-21 shows higher levels of hemolysis than other of the purified saponins. The Applicant asserts

Art Unit: 1648

that those of ordinary skill in the art would therefore have not been motivated to use QS-21 over the other purified saponins disclosed.

This argument is not found persuasive. This is because, from the teachings of Kensil, those of ordinary skill in the art would have been motivated to use any of the indicated adjuvanting saponins, including QS-21. Further, while QS-21 is disclosed as having higher toxicity, this is not a teaching away from the use of this adjuvant. The development of new inventions to perform the same or similar function does not make older technology any less obvious to those of ordinary skill in the art, and does not teach away from the prior invention in the sense of rebutting the motivational element of establishing obviousness. See e.g. In re Gurley, 31 U.S.P.Q. 2d 1130, 1131-1132 (Fed. Cir. 1994). The Federal Circuit stated in Gurley that a “known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use.” *Id.*, at 1132. In short, the court held that teaching a better solution to problem is not a teaching away from a previously known, and operable, solution. Thus, while QS-21 may have been disclosed as somewhat inferior to the other saponins with respect to the toxicity, such is not a teaching away from the use of this adjuvant. Moreover, it is noted that the prior art teaches the beneficial use of QS-21 as an adjuvant despite the knowledge in the art of its toxicity. See e.g., Wu et al., J Immunol 148: 1519-25. See also, the teachings of Prieels as applied to claims 77, 79, and 81 previously. Thus, the art indicates that those of ordinary skill in the art would have been motivated to use the QS-21 adjuvant despite its higher toxicity, and that those in the art would therefore have had adequate motivation to combine the teachings of Lipford and Kensil as was previously described.

Art Unit: 1648

Claim 95 further requires that the ratio of saponin to sterol is between 1:1 to 1:5 by weight. This claim is rejected as obvious by routine optimization of the ratios of the components in an adjuvant composition.

Claim 96 is drawn to a method for reducing the reactogenicity of QS21 by combining it with a sterol where the sterol is present in an excess by weight over QS21. As described previously, the combined teachings of Lipford and Kensil suggest the making of a composition comprising a sterol and QS-21, wherein the sterol is present in an excess over the saponin. Because the references render such a composition obvious, the references also render obvious methods of making such a composition, which would result in a method as claimed by new claim 96. This is because a method of mixing the sterol with the saponin would inherently result in a reduction of the reactogenicity of the saponin. The rejection is therefore extended to new claim 96 for the reasons above, and for the reasons indicated on page 7 of the April 22, 2004 action.

The rejection is therefore maintained for the reasons above, and the reasons of record.

6. **(Prior Rejection- Maintained)** Claims 77, 79, and 81 were rejected under 35 U.S.C. 103(a) as being unpatentable over either Lipford in view of Kensil as applied against claims 74-76, 78, 80, 82-84, and 94 above, and further in view of Prieels et al. (WO 94/00153). Dependent claims 77, 79, and 81 describe a composition as claimed above wherein the adjuvant formulation also comprises alum salts and/or 3 De-O-acylated monophosphoryl lipid A. The Applicant traverses this on the same grounds as argued with respect to the rejection over Lipford and Kensil above. The rejection is therefore maintained for the reasons above, and the reasons of record.

***Conclusion***

7. No claims are allowed.
8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

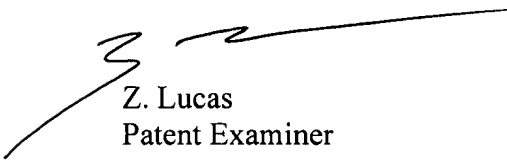
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachariah Lucas whose telephone number is 571-272-0905. The examiner can normally be reached on Monday-Friday, 8 am to 4:30 pm.

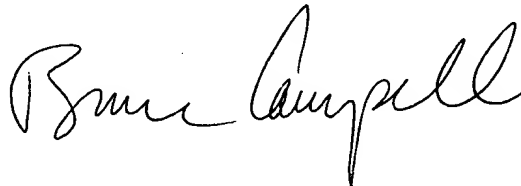
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell can be reached on 571-272-0974. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1648

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Z. Lucas  
Patent Examiner



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